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Physicochemical and morphological characterization of potato starch modified by bacterial amylases for food industry applications

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Abstract

© 2018 Adel Vafina et al. Two multienzyme bacterial preparations of α-amylase of Bacillus licheniformis and Amylosubtilin® were used in order to modify potato starch at various enzyme concentrations. Eight types of starch were obtained, and their morphological, functional, and physical and chemical characteristics were studied. Induction of enzyme preparations allowed obtaining starches characterized by extended solubility and water-sorption ability and also lower gelation temperatures and viscosity. It was found that studied amylolytic preparations do have different effects on starch granules, despite the identical major amylase activities. The combination of the characteristics studied in the enzymatically modified starches makes them promising for the use as a component of food systems requiring the corrections of their textural features.

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